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Name of the work: Improvements to Sanitary works in Ward No.08, Kodigehalli.

Contractor/Agency : M/s KRIDL

Name of the Client : BBMP

Estimated Cost : 75.00Lakhs

Status of Bill : 3rd and Final Bill

In the Presence of : (a)Mr. Srinivasulu G N
Assistant Engineer, BBMP, Bangalore.
: (b)Mr. Chandrashekhar B. V
Assistant Executive Engineer, BBMP, Bangalore
: (c) Mr. Dileep Kumar T L Site Engineer
M/s Tejus Consultants

Sri Srinivasulu AE
Jr n/a

Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore - 92

Item No	Description of Item of Work	Comments/ observation
1	KSRRB M200-12.2. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i) Lime /Cement Concrete. I. By Manual Means :B. Cement Concrete Grade M-15 & M-20. MORTH Specification No. 202. (P.No. 139, I.No. 18.18 of CSR 2018-19)	Work done up to the billed quantity and quality is satisfactory
2	Cutting road surfaces for pipeline trenches and disposing of the excavated stuff as directed including barricading, danger lighting etc. in the classifications for:. in the following classifications.Cutting Asphalt Road (BWSSB SR 16-17, P.9 I No.16)	Work done up to the billed quantity and quality is satisfactory

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3	EXCAVATING FOR PIPE LINE TRENCHES OF REQUIRED WIDTH by mechanical / & manual means including dressing sides, ramming of bottoms, providing barricading, danger lighting, shoring,strutting, dewatering, etc. IN ALL KINDS OF SOIL MIXED WITH BOULDERS of 30 cms size, etc. for: Pipes of all dia. for depth upto 2.0 M in all types of soils(BWSSB SR 17-18, P.51, I No.1.1)	Work done up to the billed quantity and quality is satisfactory
4	Supplying, lowering, laying, jointing, testing and commissioning of Glazed Stone Ware Pipes of following dia, conforming to IS 651:1992,IS 4127 with latest amendments, including conveying to work site, caulking with hemp dipped in tar and jointing with CM 1:1.5 using OPC, perfect linking and curing for 10 days and testing with water etc. with all lead, lifts and as per Technical Specifications. The cost to include the cost of all jointing materials, necessary survey works for laying of sewer lines etc. complete. The contractor will make own arrangements for procuring water for testing.230 mm dia. pipes(BWSSB SR 17-18, P.157 I.No 3.4)	Work done up to the billed quantity and quality is satisfactory
5	Labour charges for laying and jointing glazed stone ware pipes of 0.6m length and of specified dia., of tested quality conforming to IS 651 of 1963 including caulking with hemp yarn, jointing with CM 1:2 and testing with water etc. complete for: (Rate to include cost of jointing materials and transportation of pipes from store work site but excluding the cost of earth work) - Glazed Stone Ware pipe of 230 mm dia (P.No 159.1 No.7.3 BWSSB 2017-18)	Work done up to the billed quantity and quality is satisfactory
6	Supplying S&S RCC SPUN / VIBRATED CAST PIPES (REINFORCED) pipes NP-3 Class conforming to IS:458-1988 with latest amendments using ordinary portland cement, for sanitary works and conveying to work site, rolling and lowering into trenches, laying true to line and level including loading and unloading at both destinations and jointing of pipes and specials including cost of specials, perfect linking of joints with jack to correct position including cost of jointing materials, i.e, rubber rings conforming to IS: 5382 for S&S RCC pipes, with all leads and lifts as directed and giving necessary hydraulic test as per ISS to the required pressure and commissioning etc. complete. (Contractor will make his own arrangements for procuring water for testing). Before the execution of the work, the contractor shall carry out the survey and will be paid extra for the same as per seperate item.: RCC NP3 Class pipe of 300 mm dia.(Pg.No.158 , I.No. 5.2 of PW, P&IWTD SR 2017 - 18)	Work done up to the billed quantity and quality is satisfactory

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7	Providing house connection with excavation in all types of soils without damaging the other utilities and supplying and laying 25 mm OD MDPE pipe (PE80) manufactured in accordance with ISO 4427 - 1996 with minimum required strength of 8 Mpa, hydraulic design stress of 6.3 Mpa and with minimum wall thickness of 2.3 mm by making the bore of 15 mm dia. size on the Board's supply mains of 100 mm dia. using drilling bits or machines only and laying the pipe line at a depth not less than 0.45 mtrs. from the road surface, including providing 40 mm dia. "A" class GI pipe as casing over the MDPE pipe from the bore point and upto the entrance of the premises and removing the stone slab covering of the drain and dismantling the size stone masonry wherever necessary and making bore in the wall of the premises. On entering the premises, connection should be continued with 20 mm GI pipe by making "U" shape for the meter point below the ground level by making pit with sufficient space for the easy installation and removal of the water meter and providing vertical stand pipes on both sides of the mater. The connection should be secured firmly on the Board's main pipe with SS / Brass . ferrule of size 1/2" x 3/4" and fixing the union joint and gate valve / stop cock before the meter point and a reflex valve / non-return valve should be fixed on the connection after the meter point. (All these fixtures should be of standard quality conforming to IS). The compression fittings for MDPE pipes conforming to ISO 14236 and its latest versions. The excavated trench should be refilled with soft selected earth and the dismantled masonry of the drain should be re-constructed with available size stones in CM 1:8 and providing coping in CC 1:3:6 wherever required and the stone slab covering should be refixed in position with pointing in CM 1:3 and also the bored wall of the premises should be re-done to the original position and the rates are inclusive of the cost of all the materials, cement, sand water etc., required for these works. The road suface should be compacted well and brought to the original condition and the excess earth or debris should be disposed off to a distance with an initial lead of 10 Kms. etc. complete for: For minimum length of 2.0 mtrs.(BWSSB SR 2017-18, P-68 I-53.1)	Work done up to the billed quantity and quality is satisfactory
8	KSRRB M400-6.1 : Construction of granular sub-base by providing close graded cushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications. A. Plant Mix Method For Grading-II Material (BwsSB SR 2016-17, P-280 I-20.4)	Work done up to the billed quantity and quality is satisfactory
9	Wet Mix Macadam, Providing.laying, spreading and compacting cushed stone aggregates of granite trap/basalt to wet mis macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of 4 mixed method of tipper to site, laying in uniform layers with paver in sub-base base course on well prepared surface and compacting with bratory roller to achieve the desired density complete as per specifications MORTH Specification No. 406 (BwssB SR 2016-17)	Work done up to the billed quantity and quality is satisfactory

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10	Refilling pipeline and foundation with selected trenches available earth form trench excavation and foundation inlcuding 5 watering, consolidation in layers of 15cms., thickness including disposing off the surplus earth with all leads & lifts.(BwsSB SR 2016-17, P-9 I-2)	Work done up to the billed quantity and quality is satisfactory
11	EXCAVATING FOR PIPE LINE TRENCHES OF REQUIRED WIDTH by mechanical / & manual means including dressing sides, ramming of bottoms, providing barricading, danger lighting, shoring, strutting, dewatering, etc. IN DISINTEGRATED ROCK, SOFT ROCK, SOFT SHALE AND MEDIUM HARD ROCK COMPRISING OF LIME STONE, SAND STONE, HARD SHALE, SCHIEST, FISSURED ROCK without resorting to blast etc. for:Pipes of all dia. for depth upto 2.0 M Note : If any shoring and strutting, will be paid separately:.(BWSSB SR 2017-18, P-51 I No-2.1)	Work done up to the billed quantity and quality is satisfactory
12	Dismantling the damaged or collapsed manhole of 4" dia conical in shape and reconstructing the same with machine made wire 6 brick in CM (1:4) as per design and specification of new cut manhole 4" dia with old frame and cover excluding bed concrete 13.6 (RwssR SR 2016-17, P-97, I-92 MTR DEPTH	Work done up to the billed quantity and quality is satisfactory
13	Providing and constructing "wire cut brick manhole chambers" using sulphate resistant cement, conical in shape at top with C.C. 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15 m alround the chamber and brick masonry in C.M. 1:4 plaster with wire cut bricks of approved quality and CM plaster 1:3 proportion 12 mm thick inside and outside except for the conical surface outside where the thickness of plaster shall be 20 mm thick, with 1:6 slope in the concrete towards the central drain, finished smooth and fixing of pipes in CC 1:2:4 graded metal of 20 mm and down size including conveying to work spot supplying & fixing SFRC manhole frame and cover confirming to IS:12592 with latest amendments in CC 1:2:4, supplying and fixing of minimum 3 mm thick encapsulated plastic footsteps (as per IS 10910) on 12 mm dia, Grade Fe-415 steel bar (as per IS 1786) staggered at 30 cms apart as detailed in Technical Specifications and as directed, watering, curring, barricading, danger lighting, pouring tar over MH frame and cover, cost of tar, shoring, strutting, dewatering, engraving manhole No. with flow irection on the inner conical surface etc., as per the drawing with wire cut bricks as per technical pecifications for the following diameters & depths by using Ordinary Port Land Cement. (inclusive of earthwork for all types of soil) (BwsSB SR 2017-18, P-80 I-83)	Work done up to the billed quantity and quality is satisfactory
	For 1.0 m depth	Work done up to the billed quantity and quality is satisfactory
	For 1.5 m depth	Work done up to the billed quantity and quality is satisfactory

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	For 3 m depth	Work done up to the billed quantity and quality is satisfactory
14	Disposong off the excess excavated earth of all type up to a distance mentioned Every Km beyond 5 KM 8 Considering 10 Km below by vehicle including loading unloading with all lifts labour HOM of machinery etc., complete (BWSSB SR 2016-17, Pg-10, Item-7)	Work done up to the billed quantity and quality is satisfactory
15	Hire Charges for 2HP dewatering pump to bail out water at leaking pits inclusive of hire charges etc, complete Rs.1300/- per day of 8hours shift per day (BWSSB SR 16-17 Sl.No-4, P-34)	Work done up to the billed quantity and quality is satisfactory
	EIRL Items	
EIRL-1	Providing and constructing "wire cut brick manhole chambers" using sulphate resistant cement, conical in shape at top with C.C. 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15 m alround the chamber and brick masonry in C.M. 1:4 plaster with wire cut bricks of approved quality and CM plaster 1:3 proportion 12 mm thick inside and outside except for the conical surface outside where the thickness of plaster shall be 20 mm thick, with 1:6 slope in the concrete towards the central drain, finished smooth and fixing of pipes in CC 1:2:4 graded metal of 20 mm and down size including conveying to work spot supplying & fixing SFRC manhole frame and cover confirming to IS:12592 with latest amendments in CC 1:2:4, supplying and fixing of minimum 3 mm thick encapsulated plastic footsteps (as per IS 10910) on 12 mm dia, Grade Fe-415 steel bar (as per IS 1786) staggered at 30 cms apart as detailed in Technical Specifications and as directed, watering, curring, barricading, danger lighting, pouring tar over MH frame and cover, cost of tar, shoring, strutting, dewatering, engraving manhole No. with flow irection on the inner conical surface etc., as per the drawing with wire cut bricks as per technical pecifications for the following diameters & depths by using Ordinary Port Land Cement. (inclusive of earthwork for all types of soil) (BwsSB SR 2017-18, P-80 I-83)-**Constructing Brick Masonry Circular Manholes 1.2 m internal dia.& 4.0 M depth include SFRC F&C ((BWSSB SR 17-18 Sl.No-104, P-169 T300)**	Work done up to the billed quantity and quality is satisfactory

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